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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/304,523	05/04/99	YAMAZAKI	S 07977/046002

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EXAMINER

CHAMPAGNE, D

ART UNIT

PAPER NUMBER

1765

DATE MAILED:

04/21/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/304,523

Applicant(s)

Yamazaki et al.

Examiner

Donald L. Champagne

Group Art Unit

1765



☒ Responsive to communication(s) filed on March 2000

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters prosecution as to the merits is closed in accordance with the practice under *ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three (3) month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of

Disposition of Claim

☒ Claim(s) 7-46 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☒ Claim(s) 19-30 and 41-44 is/are allowed.

☒ Claim(s) 7-18, 31-40, 45, and 46 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirements

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. §

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.

☒ received in Application No. (Series Code/Serial Number) 08/683,722

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. Claims 7-18, 31-40, 45 and 46 are rejected under 35 U.S.C. 102(e) as anticipated by Imahashi *et al.* Imahashi *et al.* teaches (col. 5 lines 10-23 and 34) a method for manufacturing an LCD device, comprising the steps of: forming a semiconductor (*amorphous silicon*) film over a substrate having an insulating upper surface (*glass substrate*); vacuum-sucking said substrate (holding the substrate with a *vacuum chuck*, col. 7 line 13); and irradiating (crystallizing by heating) the semiconductor film with an excimer laser beam having a cross section which is elongated in one direction (*rectangular cross section*), while relatively moving the substrate with respect to the laser beam.

Imahashi *et al.* does not teach that the vacuum chuck comprises a stage having a flat surface, and at least one suction inlet, and operates in such a manner that the lower surface of the substrate is in contact with the flat surface of the stage. However, since Imahashi *et al.* teach the method claimed, under the principle of inherency the invention is considered to be anticipated in this regard by Imahashi *et al.* As evidence tending to show inherency, it is noted that a vacuum chuck must embody these properties if it is to be used effectively.

Imahashi *et al.* does not teach flattening the substrate. However, since Imahashi *et al.* teaches the method claimed, under the principle of inherency the invention is considered to be anticipated in this regard by Imahashi *et al.* As evidence tending to show inherency, it is noted that any substrate held successfully by a vacuum chuck must tend to be flattened by the pressure difference.

Allowable Subject Matter

2. Claims 19-30 and 41-44 are allowed.
3. The following is an examiner's statement of reasons for allowance: In the manufacture of an LCD device, claims 19-24, 41 and 42 teach crystallizing a semiconductor film on a substrate with an insulating surface by heating, and irradiating the crystallized film with a moving laser. The closest prior art, Imahashi *et al.*, does not irradiate the crystallized film, and no suggestion was found in the prior art for adding this step.

In the manufacture of an LCD device, claims 25-30, 43 and 44 teach deforming a semiconductor film on a substrate with an insulating surface from flat to curved by heating. The closest prior art, Adachi *et al.*, teaches restraint of the substrate to prevent deformation upon heating (col. 9 lines 10-11 and 19-22). No suggestion was found in the prior art for removing this restraint so as to produce the instant invention.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Champagne whose telephone number is (703)308-3331.

DLC
20 April 2000


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